

Section Contents

II. Literature Review.....	3
Introduction	3
North Carolina Tourism.....	3
Bicycling Literature.....	6
The Characteristics of Bicyclists	6
What Attracts Bicyclists to a Particular Area?.....	7
The Benefits of Bicycling	9
Economic Impacts	9
References.....	10
Bibliography	11
 Table 1. Comparison of first-time and regular visitors' priorities of recreation at the Outer Banks	5
Table 2. Travel expenses for visitors to the Outer Banks	6

II. LITERATURE REVIEW

Introduction

Tourism is an important and much sought after economic resource for many states, counties and local areas. In some states or areas, tourism is the primary industry. Competition for tourists can be quite intense. States, cities, towns, local Chambers of Commerce and/or Visitors Bureaus, and many local businesses all vie for tourist dollars. Whether it is natural attractions such as beaches or mountains, man-made attractions such as museums or historical places, or simply communities that are “quaint” or “charming”, they all become important ingredients for the various promotional efforts used to lure tourists to an area. North Carolina is no exception.

This literature review focuses on North Carolina tourism in general, coastal tourism, and more specifically, bicycling and the economic impact thereof.

North Carolina Tourism

North Carolina is blessed by having a relatively diverse economy that has many sources of strength, not just tourism. However, tourism is one of its key strengths, particularly in the mountains and in the coastal areas. For example, according to the North Carolina Department of Commerce (1), in 2002:

- 44.4 million visitors came to the state, ranking it sixth in person-trip volume among the 50 states.
- Domestic travelers spent \$12 billion in the state.
- Tourism expenditures supported approximately 190,000 jobs.
- These employees earned almost \$4 billion in payroll income.
- Tourism generated \$1.1 billion in state and local tax revenue.

The purpose of these tourist trips to North Carolina was usually to visit friends or relatives (41%), but traveling here for entertainment (15%), or participating in outdoor recreation (10%) were also common reasons (1).

The business sectors in North Carolina that benefit from visitor expenditures were (1):

	<u>(Billions)</u>
Food service	\$4.1 (34%)
Transportation	3.1 (26%)
Lodging	2.2 (19%)
General retail	1.4 (11%)
<u>Entertainment/recreation</u>	<u>1.2 (10%)</u>
Total	\$12.0 (100%)

Based on the 2002 information collected by the North Carolina Division of Tourism, Film and Sports Development from the U.S. Travel Data Center and TravelScope, people living in the United States who traveled spent, on average, the following amounts per person on their total trip:

- U.S. travelers (people from the U.S. traveling in the U.S.) \$457
- North Carolina visitors (people from the U.S. traveling in N.C.) \$316
- North Carolina residents (people from N.C. traveling in N.C.) \$221

Top activities while traveling in North Carolina in 2002 included shopping (26%), visiting the beaches (13%), participating in outdoor activities (10%), and touring historical places and museums (10%). More specifically in regard to coastal travel, a study by the NC Department of Commerce (2) found that in 1999:

- Nearly eleven million domestic visitors traveled to North Carolina's coastal region (approximately one-fourth of the state's total visitors).
- Ninety percent of them came for pleasure purposes, 8% for business.
- Visitors stayed an average of 3.3 nights in the region. (This includes visitors who were there only on a day trip. Visitors that stayed overnight stayed an average of 4.6 nights.)
- Thirty-six percent stayed in a private home, which includes rental and vacation homes, while 24% stayed at a hotel, motel or bed and breakfast. Another 12% stayed in a condo or time-share.
- The average travel party size was 2.3 people.
- The average expenditure by a household in 1999 was \$396 (approx. \$52 per person per day).
- Fifty-eight percent of the households had a 1999 income of over \$50,000.

The NC Department of Commerce study also found that the main activities for coastal visitors included going to beaches (53%), shopping (24%), participating in outdoor activities (18%), and touring historical places, museums and national/state parks (27%) (2).

A study done by Strategic Marketing Research, Inc. (SMR) in 2002 provides some information specifically about visitors to the Outer Banks (3). (Note: this research only involved people who requested information about the area and then subsequently traveled there. It therefore may not represent all tourists to the area.) The main reasons for visiting the Outer Banks for first-time visitors were for sports, family reunions, or to visit a specific attraction or piece of history (3). According to the SMR study, repeat visitors came to the Outer Banks more to visit friends or relatives, or for the sun and beach, or outdoor recreation. In either case, the number one reason any visitor came to the Outer Banks was due to the variety of attractions and activities in the area (3).

When asked what places they visited or activities in which they participated, the respondents indicated slightly different priorities, depending on whether or not they had ever been to the Outer Banks before. Activities and attractions listed for both types of visitor, as well as overall percentages are given in Table 1.

Table 1. Comparison of first-time and regular visitors' priorities of recreation at the Outer Banks. Strategic Marketing Research, Inc., 2003.

Place/Activity	First-time Visitors	Repeat Visitors	Overall
Ocean/beaches	93.9%	81.6%	86.6%
Unique restaurants	82.7%	84.3%	83.6%
Scenic beauty	81.4%	79.2%	80.1%
Shopping	80.7%	76.3%	78.1%
Lighthouses	79.2%	73.0%	75.5%
Historic sites	71.7%	72.8%	72.3%
Scenic drive	70.6%	68.5%	69.4%
Wildlife viewing/bird watching	47.1%	47.4%	47.3%
Go on a ferry boat	31.8%	40.6%	37.0%
Art or cultural museums & galleries	32.4%	33.4%	33.0%
Lakes & natural features	32.1%	32.9%	32.6%
Fishing	18.9%	39.1%	30.9%
Hiking & biking	28.4%	29.3%	28.9%
Visit aquariums	22.0%	25.1%	23.8%
Visit shipwrecks/Lifesaving stations	18.6%	20.6%	19.8%
Golf	9.9%	12.6%	11.5%
Theater performances	13.0%	7.1%	9.5%
Craft or art fair	8.5%	8.5%	8.5%
Canoeing & kayaking	7.0%	9.1%	8.3%
Amusement or theme park	10.4%	5.5%	7.5%
Camp	7.7%	7.3%	7.5%
Musical performances,	8.6%	5.6%	6.8%
Tennis	0.2%	5.8%	3.5%
Attend sports events	1.0%	2.0%	1.5%
Hunting	0.0%	1.8%	1.0%

Note that according to the SMR study, almost a third of the respondents indicated that they participated in 'hiking and biking' as part of their visit. In addition, hiking and biking was cited three to four times more often than either golf or canoeing/kayaking for first-time visitors (3).

Although according to the NC Department of Commerce (2), average party size for coastal visitors was 2.3, the SMR study specific to the Outer Banks indicates a larger group of people, who actually stay

longer as well. Outer Banks visitors stayed a day and a half to two days longer for overnight visits (3) than general coastal visitors (2).

These longer stays and larger parties are also reflected in the higher average amounts spent per trip by each party. (The average amount spent by all coastal visitors per household was \$396 in 1999, or \$52 per person per day, according to the 1999 NC Department of Commerce Travel Summary.)

Table 2. Travel expenses for visitors to the Outer Banks. Strategic Marketing Research, Inc., 2003.

Expenses for...	First-time Visitors	Repeat Visitors	Overall
Lodging	\$1,011	\$1,107	\$1,067
Meals	\$432	\$509	\$477
Attractions	\$146	\$134	\$139
Recreation	\$110	\$92	\$99
Novelties/Souvenirs	\$130	\$112	\$120
Shopping	\$135	\$171	\$156
Entertainment	\$53	\$18	\$33
Transportation	\$222	\$156	\$183
Other	\$6	\$30	\$20
Total	\$2,245	\$2,329	\$2,294
Per person/per day	\$64	\$58	\$60

Bicycling Literature

There is a great deal of literature about bicycling on such subjects as bicycle safety, bicycling use and behavior, and the economic impacts thereof. Selected literature relevant to this study is discussed below.

The Characteristics of Bicyclists

There are, of course, many types of bicyclists – they may be any age or skill level; there are those who bicycle for exercise, as a hobby, or for pleasure and those who bicycle as a form of transportation. Some people go on extended bike trips, and others only bike near their home. This study specifically targeted people over 18 years old who participate in at least some bicycling while traveling, regardless of the purpose of their trip. In a South Carolina case study of coastal areas, Sparks and Barnett differentiated their study participants into long-distance cycle tourists, destination touring cyclists, destination mountain bicycle tourists, and casual family cyclists (4, p.5).

The U.S. Department of Transportation conducted a survey of attitudes and behaviors for bicyclists and found that the average length of a bicycling trip taken on a typical summer day was 3.9 miles (5, p. 4). About 39 percent of the trips taken were less than one mile, while 7.3 percent were more than ten miles in length. The study also found that the purposes of bicycle trips were usually for recreation or exercise/health purposes (49.6%), though 43.2 percent used biking as an alternative means of transportation to go home, run errands, visit a friend or relative, or to commute to school or work (5).

The percentage of bicycle facilities used, based on the National Survey of Pedestrian and Bicyclist Attitudes and Behaviors report, were as follows (5, p.5):

- Paved roads--not on shoulders (48.1%).
- Sidewalks (13.6%).
- Bicycle paths/walking paths/trails (13.1%).
- Shoulders of paved roads (12.8%).
- Bicycle lanes on roads (5.2%).
- Unpaved roads (5.2%).
- Other (2.1%).

OmniStats, another publication of the U.S. Department of Transportation through the Bureau of Transportation Statistics, supports and adds to the Attitudes and Behaviors report with their 2002 release of the following survey results about bicycle use among adult U.S. residents (6):

- Eighty million U.S. residents bicycle for fun or exercise.
- Thirty-three million people rode a bicycle an average of six days during the 30 days prior to the survey.
- A minimum of 12% of the population rides a bicycle every month (more in warmer months).
- Of the adults who bicycle, nine out of ten do so mainly for recreation (54%), or for exercise (33%). About 6% commute to school or to work, or use a bicycle as part of their job.
- Three out of five bicyclists ride mostly on paved roads, the shoulders of paved roads or bike lanes on roads. One out of five uses bicycle/walking paths or trails. (The remainder use sidewalks or some other surface.)
- Bicyclists are more likely to be male than female (61 to 39%), earn \$50,000 or more in income (58 to 42%), and be less than 45 years old (66 to 34%).

Another survey, conducted by Beldon et al. for America Bikes, found that “a majority of Americans want to bike more and are willing to invest tax dollars in creating better places to bike” (7). More specifically, the survey found that 52 percent of Americans want to bike more than they do now, 53 percent are in favor of more federal funding for bicycle facilities, even if it means fewer funds from gas taxes for road improvements, and 50 percent support a requirement for roads to include bicycle lanes or paths even if that means less space for vehicles (7).

What Attracts Bicyclists to a Particular Area?

There may be many reasons that bicyclists are attracted to a particular area. The quality of bicycling or of bicycle facilities may well be a factor but there are likely to be other important factors as well. For example, bicyclists may decide to travel to a coastal area primarily because it is the coast, not because of the quality of biking. As the Sparks and Barnett study in South Carolina noted, “very few visitors come to the region primarily for cycling vacations” (4).

However, it can easily be imagined that such bicyclists may prefer one coastal community over another because of the bicycling facilities and other amenities. In other words, many may travel to a coastal area specifically because it is the coast, but the quality of bicycling or of the bicycle facilities may represent the “tipping factor” that determines why one area attracts bicyclists more than another. If one community has a “bicycle-friendly” environment (bike paths or lanes, streets or roads that have wide paved shoulders so that both cars and bikes can be safely accommodated, and convenient bicycle racks near restaurants, shopping and other local attractions), while another community has given no consideration to bicycling, which community is a cyclist most likely to choose or to come back to?

Sparks' and Barnett's study suggest that South Carolina could do more to take advantage of ecotourism in general, and bike tourism in particular (4, p.5). The study noted that:

“South Carolina’s coastal area is well suited to develop cycle tourism for two major reasons: physical characteristics and demographics...The terrain is flat with considerable amounts of rural roads, many with low traffic densities. Distances between towns are not great. There are a variety of natural and manmade attractions easily accessible by bicycle. The climate is moderate, with virtually year-round potential for cycling activities.” (4, p.4)

They also examined the Charleston County Bicycle and Pedestrian Master Plan, as well as several other action plans around the United States and concluded that bicycling could be greatly increased through the following steps:

- Establish a formal bicycle program with a coordinator.
- Plan and constructing facilities.
- Public promotions of the advantages of bicycling.
- Increase education for cyclists and motorists.
- Strictly enforce road laws and regulations (4).

Another source for Sparks and Barnett provides a number of essential ingredients that are necessary in order to attract bicyclists, which appear appropriate to any bicycling community. “Targeting the Bicycle Touring Buck,” by Tim Kneeland, explains the experience must be fun; visitors should feel they are welcome to the area and should feel safe while cycling. Kneeland also list key details which may enhance any visitor’s experience:

- A unique and beautiful place to ride.
- A variety of cycling challenges and opportunities.
- Many bathrooms and showers.
- Repair facilities.
- A safe place to park their cars for the duration of their tours.
- Safe roads.
- Clear directions on where to go (8).

The U.S. Department of Transportation’s Attitudes and Behaviors survey asked respondents to recommend changes that would improve bicycling safety in their communities. Obviously, if bicyclists feel unsafe riding in a community, they are less likely to want to bike there. The respondents recommended the following changes (6, p.5):

- Provide bicycle facilities, e.g., bicycle trails, paths, lanes, or racks (73.0%).
- Improve existing bicycle facilities (7.8%).
- Change existing laws governing bicycles (7.3%).
- Initiate bicycle safety education (6.7%).
- Make areas for bicycling safer (6.0%).
- Enforce laws governing bicycling (3.6%).
- Other (7.2%).

The Benefits of Bicycling

There is an accumulation of benefits from the activity of bicycling. Unfortunately, many of these benefits are not readily transparent or easy to quantify in dollar amounts. These benefits, although not the primary purpose of this study, are no less important, and are broadly accepted:

- *Environmental*--includes improved air quality and energy conservation.
- *Health and fitness*--increased opportunity for more active lifestyles; promotes safe places to exercise, particularly for seniors; increased physical and mental well-being.
- *Transportation*--less traffic congestion, improved safety (minimized conflicts between motorists, bicyclists or pedestrians), and preservation of highway infrastructure (e.g., paved shoulders resulting in less damage to road edges).
- *Reduced Parking Required*--to the extent that people bicycle to various locations, especially congested areas, less parking is needed for automobiles. This can be very important in areas where land for parking is difficult and expensive to acquire.
- *Social*--increased quality-of-life benefits that result from living in communities that have more open space and greenways that provide more opportunities for walking or cycling and increase connectivity within a community.

One measurable benefit on which this study focuses is the economic impact of bicycling. Particularly in the case of bicycling travelers, the amount of increase in retail sales from restaurants, lodging establishments, retail stores, etc. and job preservation and creation may all indicate an economic impact from bicycle tourism. For residents of an area near dedicated bicycle facilities, such as paths or trails, they appreciate a boost in property values, while those who use the facilities enjoy reduced health care costs resulting from healthier living.

Economic Impacts

There are two perspectives of the benefits that result from the presence of bicycle facilities in an area. Each has some economic value (i.e., people would be willing to pay something in order to obtain these benefits):

- *The benefits to local residents* who are able to utilize the bicycling amenities for recreation, exercise, commuting, etc. (In many cases, a bike path or multi-use trail also benefits walkers, joggers, and rollerbladers.) There may also be some benefits from less traffic congestion, increased bicycle and pedestrian safety, and improved air quality. In addition, more and more communities are looking at the ability of a child to safely walk or bicycle to school or to a local store as an important feature of a desirable neighborhood.
- *The benefits that result from tourists* who may be drawn to the area due to the availability of the biking amenities. This is particularly true of major bike trails such as some of the “Rails-to-Trails” conversions. The tourists spend money that benefits the local economy.

There are two basic approaches to analyzing the value of these benefits. The first, a benefit-cost analysis, attempts to measure the value of the benefits that result from the amenities, and then compares this value to the cost of providing them. If the benefits exceed the costs, the amenities are considered a desirable investment. However, particularly for bicycling amenities, this is a difficult analysis to conduct because it requires that a number of very difficult-to-measure benefits be converted to a dollar value, e.g., the benefits of exercise on health, the improvement in air quality or traffic congestion due to bicycling, and the value of recreational biking.

The second approach, an Economic Impact Analysis (EIA), uses a different method. In this type of analysis the presumption is that the main benefits that occur from an investment in an amenity of some type is the effect it has in attracting visitors or tourists from other areas. For example, a tourist attraction such as

the Wright Brothers National Memorial attracts many visitors from other areas. These tourists spend money on food, lodging and a variety of other things while visiting, and this has a direct economic impact on the local restaurants, lodging facilities, and retail merchants. Moreover, these expenditures result in increased public revenues through sales and other local taxes (each travel dollar produces about \$0.06 in state tax revenues and \$0.03 in local tax receipts). (1, p.1))

Most of the literature about the economic benefits of bicycle facilities falls in the latter category, i.e., the Economic Impact Analysis (EIA). Economic impacts result in both sales revenue and jobs comprised of three impact types:

- *Direct*: the dollars initially spent by tourists in primary local businesses such as lodging facilities, restaurants, and retail stores.
- *Indirect*: subsequent purchases by suppliers of materials and services to the primary businesses.
- *Induced*: the resulting expenditures by the workers in the direct and indirect businesses on consumer goods and services.

There are three basic steps to performing an EIA. Greatly simplified, a profile of the cycling visitors must first be developed, especially on what they spend money and how much. Second, an estimate of total cyclists must be developed. These two figures are then multiplied. The next step is to run this total dollar amount through an economic impact model that will apply appropriate economic multipliers and then estimate the amount of expenditures that accrue to the various business sectors, how many jobs are created or maintained, what local taxes are generated, etc.

Sparks and Barnett estimated the economic impact of bicycle tourism in South Carolina and concluded that it would not be unrealistic to estimate that with increased development of bicycle infrastructure and programs, bicycle tourists could be increased by 30,000 people annually. The annual economic impact of this increase in coastal tourism was estimated to be \$72 million (4).

Unfortunately, the economic impact literature on the subject of bicycling deals with special attractions in which the facility itself is the primary reason for traveling to the area (e.g., a bike path developed in an abandoned railroad right-of-way, or a river used by people for canoeing, kayaking, or rafting). No studies were found that focused on a *system* of bicycle facilities in a location similar to the area that was the focus of this study where the subject of the study is just one of many reasons that people are attracted to the area.

References

1. North Carolina Department of Commerce. *NC Tourism Day*, 2003 Newsletter.
2. "Fast Facts about NC's Travel and Tourism." North Carolina Department of Commerce, Division of Tourism, Film and Sports Development. From Travel Industry Associate of America's *1999 Domestic Region Travel Summary*. www.nccommerce.com/tourism/econ/facts.asp. Accessed April 21, 2003.
3. Strategic Marketing Research, Inc. *Outer Banks Visitors Bureau 2002 Conversion Research*, May 2003.
4. Sparks, Donald L., and Stephen T. Barnett. *Examining Economic Impacts of Bicycle Tourism: A Case Study of Coastal South Carolina*. Presented at Pro Bike/Pro Walk 98, Santa Barbara, September 1998.
5. U.S. Department of Transportation, National Highway Safety Administration and the Bureau of Transportation Statistics. *National Survey of Pedestrian and Bicyclist Attitudes and Behaviors—Highlights Report*, 2002. www.bicyclinginfo.org/pdf/bikesurvey.pdf. Accessed May 2003.
6. U.S. Department of Transportation, Bureau of Transportation Statistics. *OmniStats: Bicycle Use Among Adult US Residents*, Vol. 2, Issue 6, December 2002.

7. "Polls: Americans Favor Increased Investment in Pedestrian, Bicycle Facilities." Beldon, Russonello & Stewart (for America Bikes, April 2003). In *Transfer: Surface Transportation Policy Project's Electronic Update*, ed. John Goldener, Vol. 9, No. 10, 2003. www.transact.org/transfer/trans03/05_12.asp. Accessed July 7, 2003.
8. Kneeland, Tim, "Targeting the Bicycle Touring Buck," Tim Kneeland and Associates, Seattle, October 1992.

Bibliography

- "Fast Facts about NC's Travel and Tourism." North Carolina Department of Commerce, Division of Tourism, Film and Sports Development. From Travel Industry Associate of America's *1999 Domestic Region Travel Summary*. www.nccommerce.com/tourism/econ/facts.asp. Accessed April 21, 2003.
- Kneeland, Tim, "Targeting the Bicycle Touring Buck," Tim Kneeland and Associates, Seattle, October 1992.
- Moore, Roger L., and Kelly Barthlow. Department of Parks, Recreation and Tourism Management, North Carolina State University. *The Economic Impacts and Uses of Long-Distance Trails: A Case Study of the Overmountain Victory National Historic Trail*, March 1998. (Prepared for the U.S. Department of the Interior, National Park Service).
- North Carolina Department of Commerce. *NC Tourism Day*, 2003 Newsletter.
- "Polls: Americans Favor Increased Investment in Pedestrian, Bicycle Facilities." Beldon, Russonello & Stewart (Prepared for America Bikes, April 2003). In *Transfer: Surface Transportation Policy Project's Electronic Update*, ed. John Goldener, Vol. 9, No. 10, 2003. www.transact.org/transfer/trans03/05_12.asp. Accessed July 7, 2003.
- Price Waterhouse Coopers. *An Economic Impact Analysis of the Proposed Alignment of the Trans Canada Trail in East-Central Alberta*, Circa 2001.
- RJR & Associates. *MVSTA Trail Users: Economic Impacts and Characteristics*. Wenatchee, September 1998. (Prepared for the Methow Valley Sport Trails Association.)
- Sparks, Donald L., and Stephen T. Barnett. *Examining Economic Impacts of Bicycle Tourism: A Case Study of Coastal South Carolina*. Presented at Pro Bike/Pro Walk 98, Santa Barbara, September 1998.
- Strategic Marketing Research, Inc. *Outer Banks Visitors Bureau 2002 Conversion Research*, May 2003.
- U.S. Department of Transportation, National Highway Safety Administration and the Bureau of Transportation Statistics. *National Survey of Pedestrian and Bicyclist Attitudes and Behaviors—Highlights Report*, 2002. www.bicyclinginfo.org/pdf/bikesurvey.pdf. Accessed May 2003.
- U.S. Department of Transportation, Bureau of Transportation Statistics. *OmniStats: Bicycle Use Among Adult US Residents*, Vol. 2, Issue 6, December 2002.
- U.S. Department of the Interior, National Park Service--Rivers, Trails and Conservation Assistance. *Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors: A Resource Book*, 1992.